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August 25, 2016

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, N.W.
TW-A325
Washington, D.C. 20554

Re: NECA 2017 Modification of the Average Schedule Universal Service High Cost Loop Support Formula, WC Docket No. 05-337

Dear Ms. Dortch:

Attached is *NECA's 2017 Modification of the Average Schedule Universal Service High Cost Loop Support Formula*. This filing contains proposed modifications to the formula used to calculate interstate universal service fund high cost loop expense adjustments for average schedule companies. These average schedule modifications are scheduled to take effect on January 1, 2017 and remain in effect through December 31, 2017.

This *2017 Modification of the Average Schedule Universal Service High Cost Loop Support Formula* has been filed electronically in the above-referenced docket.

Sincerely,

Attachment:
2017 Modification of the Average Schedule Universal Service High Cost Loop Support Formula

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

2017

NECA MODIFICATION OF THE AVERAGE SCHEDULE UNIVERSAL SERVICE HIGH COST LOOP SUPPORT FORMULA

August 25, 2016

NECA
80 South Jefferson Road
Whippany, NJ 07981

NECA MODIFICATION OF THE AVERAGE SCHEDULE
UNIVERSAL SERVICE HIGH COST LOOP SUPPORT FORMULA
EFFECTIVE JANUARY 1, 2017

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Summary

In this filing, the National Exchange Carrier Association, Inc. (NECA) proposes modifications to the formula used to calculate Universal Service Fund (USF) high cost loop (HCL) expense adjustments for average schedule companies.[1] This formula and associated cost per loop values are intended to govern HCL payments to average schedule companies in the 2017 calendar year.

This filing describes results of NECA's studies to update the HCL Cost per Loop (CPL) formula, which continues to use methods approved by the Commission for determining average schedule USF payments in 2016.[2] As required by the FCC's March 30th *Rate of Return Reform Order*,[3] NECA continues to incorporate a 25 basis point annual reduction in the rate-of-return (RoR) used to compute the formulas. The *Rate of Return Reform Order* also adopted limits on operating expenses to be recovered through support. Under the proposed formulas, beginning in January 2017, an Operating Expense (Opex) Limit Factor will accordingly be applied to average schedule companies' CPL and USF payments.

[1] NECA submits proposed modifications to the average schedule HCL formula on an annual basis. *See National Exchange Carrier Association, Inc. 2005 Modification of Average Schedule Universal Service Formulas*, CC Docket No. 96-45, Order, 19 FCC Rcd. 24998 (2004).

[2] *National Exchange Carrier Association, Inc., 2016 Modification of the Average Schedule Universal Service High Cost Loop Support Formula, High-Cost Universal Service Support*, WC Docket No. 05-337, Order, 28 FCC Rcd. 16885 (2015).

[3] *Connect America Fund*, WC Docket No. 10-90, *ETC Annual Reports and Certifications*, WC Docket No. 14-58, *Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 16-33 (rel. Mar. 30, 2016) (*Rate of Return Reform Order*).

A. Background

The proposed average schedule HCL formula change is needed to assure payments to average schedule companies will simulate payments received by representative cost companies, as required by section 69.606(a) of the Commission's rules.

NECA proposes herein a formula relating cost per loop data of sample companies to their loops per exchange values (see Exhibit 1) as well as an Opex limit factor to be applied to average schedule companies subject to Opex limits. NECA includes cost per loop amounts based on this formula for every average schedule study area entitled to an expense adjustment pursuant to section 54.1301, in its Annual Universal Service Fund Submission of Study Results. These cost per loop amounts, when used with the payment algorithm prescribed in revised section 54.1310 of the Commission's rules, will produce HCL payments to individual companies consistent with the Commission's rules.

Annual payments to average schedule companies under the proposed formula will total approximately $15.4 million payable to 201 average schedule study areas in 2017.[4] These payments reflect the maintenance of the cap on the overall fund size. In comparison, payments in 2016 under the current formula are expected to amount to $10.6 million paid to 191 study areas. The proposed payments represent an increase of $4.8 million, about 45%, compared to current payments.

[4] This amount is prior to application, where applicable, of USAC adjustments for rate floor, the $3000 support limit and the overall budget control mechanism.

Most of this increase is attributed to the change in payment rules that took effect on July 1, 2015.[5] Under the new payment rules, the fund size is controlled with across-the-board payment cuts rather than by adjusting the NACPL to keep total payments under the cap. The new method of controlling the fund has a smaller impact on lower cost companies, including average schedule companies, than the prior method.

It should be noted the average schedule portion of high cost loop funding is small, in part because average schedule companies generally have costs between 115% and 150% of the frozen National Average Cost per Loop (NACPL), and thus receive support compensating for only a minor portion of their loop costs. HCL funding for all rural companies in 2017 will amount to $704 million. If the Commission approves the Cost per Loop formula proposed herein, the $15.4 million in HCL funding made available in 2017 to average schedule companies will represent only 2.2% of the total rural HCL fund. In contrast, there are 306 average schedule study areas, representing 28% of the 1,092 total rural study areas.

[5] On December 18, 2014, the FCC issued Report and Order that alters the way the High Cost Loop Support expense adjustments are calculated beginning July 1, 2015. *See Connect America Fund*, WC Docket No. 10-90, *ETC Annual Reports and Certifications*, WC Docket No. 14-58, *Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) from Obsolete ILEC Regulatory Obligations that Inhibit Deployment of Next-Generation Networks*, WC Docket No. 14-192, Report and Order, 29 FCC Rcd. 15644 (2014) ¶¶ 102-114.

B. Procedural Aspects

In preparing proposed formula revisions, NECA receives valuable assistance from the Average Schedule Task Group. This group consists of exchange carrier representatives sponsored by industry associations (*i.e.* NTCA – the Rural Broadband Association, USTelecom, and the WTA – Advocates for Rural Broadband). The Task Group meets several times a year, reviews the steps taken in developing proposed average schedule formulas, advises NECA regarding the development of procedures for administration of the formulas, and assists the NECA Board of Directors in evaluating final proposed formulas. Task Group participation assures average schedule companies are able to participate fully in the development of the average schedule formulas, and also have an opportunity to provide input to NECA regarding the ways in which changes in average schedule company networks can affect settlement formulas.

As it has done in the past for each proposed average schedule modification, NECA will provide a statement to each average schedule company advising it of the impacts of these proposed modifications. This detailed, individual notification includes a brief overview of the new formula as well as the factors contributing to changes in a company's support amount (e.g. changes in loop counts and exchange count data). These notifications assure average schedule companies are aware of proposed changes in the support formula and the impact on their settlements to enable them to plan accordingly. NECA also provides data based on this formula to USAC for USF administration.

Exhibit 1

Proposed High Cost Loop (HCL) Formula for 2017

Average Schedule HCL Formula = Cost per Loop Formula x Opex Limit Factor

Cost per Loop Formula

If Loops per Exchange is less than 1,000, then:

Cost per Loop = $1143.728379 - $0.521117 x Loops per Exchange

If Loops per Exchange is greater than or equal to 1,000 but less than 2,000, then:

Cost per Loop = $737.724125 - $0.115112 x Loops per Exchange

If Loops per Exchange is greater than or equal to 2,000, then:

Cost per Loop = $507.50.

Opex Limit Factor

If exchanges are not subject to section 54.305 rules or state does not equal Alaska,[6] then:

Opex limit factor = 0.999858, otherwise:

Opex limit factor = 1.

[6] Per the *Rate of Return Reform Order*, the Opex limit does not apply to acquired exchanges subject to section 54.305 or to study areas entirely composed of acquired exchanges, or companies in Alaska.

C. Data Used to Develop the Proposed Formula

This section describes the data underlying the proposed HCL formula. Data comes from three sources:

1. USF data submitted by the population of Subset 3 study areas settling on a cost basis.
2. Financial accounts and loop data from a sample of average schedule study areas.
3. Access line and exchange count data from the entire population of average schedule study areas.

Subset 3 cost study areas provided categorized account data used to compute cost categorization factors. These data were collected in connection with the 2015 annual USF Data Submission and are available on the compact discs included with that submission.[7]

Account data and loop information were collected from the average schedule study areas sampled in 2014 and 2015. The 2014 sample provided 2013 financial accounts and loop information for 2014. The 2015 sample provided 2014 financial accounts and loop information for 2015. These data were used to determine Universal Service Fund (USF) loop cost values for each company, as described in the next section.

Loop data and access line counts from the sample were used to calculate a loop count value for each sample average schedule company. In the annual collection of data from sample study areas, NECA collects the following loop information to supplement access line counts: company official lines, off-premise extensions and special access lines. NECA calculated the count of

[7] *See 2015 NECA Universal Service Fund Submission of 2014 Study Results,* National Exchange Carrier Association, Inc. (filed Sept. 30, 2015) (*NECA 2015 USF Data Submission*).

USF loops for each sample study area as the sum of access lines, company official lines and off-premises extensions bridged in the central office.

A loops-per-access line ratio was calculated by dividing sample total USF loops by sample total access lines. Totals used in this calculation were weighted using sample weights. Sample weights are used to expand the sample to a population estimate. A study area's sample weight is the reciprocal of the probability of it being included in the sample. The sample weight measures the count of units in the population a member of the sample represents. For example, a study area with a sample weight of three represents three study areas in the average schedule population. An unbiased estimate of the population is achieved by weighting access line data in this manner. This means an estimate developed by this method is expected to neither overestimate nor underestimate the loops-per-access line ratio.

$$2017\ \textit{Fund Loops per Access Line Ratio} = 1.019787$$

Account and loop data from the sample were projected to December 2015 levels using the methods and growth models developed in NECA's 2015 study and filed in the 2016 NECA Modification of Average Schedules.[8]

[8] The growth rates development method description is included in Section V.B and V.C of NECA's December 2015 settlements formula filing. *See National Exchange Carrier Association, Inc.'s 2016 Modification of Average Schedule Formulas,* WC Docket No. 15-298 (filed Dec. 23, 2015).

Access line[9] data and exchange counts for the population of average schedule study areas were taken from NECA's settlement system for the month of December 2015 based on the June 2016 view. For the purpose of evaluating the proposed formula on each member of the average schedule population, USF loop counts were calculated for each study area using the loops per access line ratio.

$$USF\ \ Loops = Access\ \ Lines \times Loops\ \ per\ \ Access\ \ Line\ \ Ratio$$

USF loops and exchange counts for each average schedule study area are displayed in Appendix C.

D. HCL Cost per Loop Formula

This section describes the derivation of the average schedule Cost per Loop formula and Opex limit factor by:

- Computing categorization factors from Subset 3 cost company data;
- Determining loop costs for sample average schedule study areas using these factors and projected accounts;
- Using sample companies' loop cost and loops per exchange data to derive a statistical regression model; and
- Comparing sample companies' CPL capped by the FCC's Opex limits and actual uncapped CPL to derive an overall Opex limit factor.

[9] Average schedule companies report access line counts to NECA each month based on their billing of End User Common Line (EUCL) charges associated with basic local exchange service. NECA uses the reported December line counts to calculate USF loops for these companies. Loop counts based on these line counts are included in the annual USF data submission filed on October 1st of each year.

These steps are explained in the following four subsections.

1. Calculation of Categorization Factors from Subset 3 Cost Companies

Cost companies submit categorized data to NECA pursuant to section 54.1305 of the Commission's rules.[10] This data was used to compute average USF loop cost categorization factors. Loop cost categorization factors are the cost company fractions of accounts attributed to loop. They were developed from accounts related to Exchange Line Cable and Wire (C&WF) Facilities (Category 1) and Exchange Line Central Office Circuit equipment (Category 4.13).

For example, by computing the ratio of cost company Central Office Equipment (COE) 4.13 investment to total cost company COE investment, NECA developed average categorization factors for Category 4.13 investment. Loop cost categorization factors were developed for each of NECA's five geographical regions, to recognize categorization differences in circuit equipment and cable and wire facilities across regions.

Exhibit 2 summarizes how these categorization factors were computed from cost company data, and how they were used to allocate sample average schedule companies' projected accounts. The first column names the Algorithm line corresponding to instructions in Tab 3 of NECA's Universal Service Fund (USF) 2015 Submission of 2014 Study Results.[11] Algorithm lines AL3, AL4, AL5 and AL6 are categorization factors defined in the USF submission to apportion unseparated cost accounts to loop.

[10] Data was taken from the USF Data submission filed with the Commission on Sept. 30, 2015. *See NECA 2015 USF Data Submission*.

[11] *Id*.

Algorithm lines 13 through 24 are the various cost components of loop cost. Line 25 is the total unseparated loop cost. Line 26 is the cost per loop. Loop cost components are named in the second column in Exhibit 2. The third column is a description of each algorithm line and the last column presents cost categorization formulas used to calculate the value for each sample average schedule company.

Algorithm Lines 23 and 24 in Exhibit 2 use Adjustment Ratios to allocate Total Accumulated Depreciation to C&W Facilities and COE Transmission. This is done to ensure the amount of reserves assigned to loop is in proportion to the amount of investment assigned to loop. The adjustment ratio is calculated as follows:

$$\text{Adjustment Ratio} = \frac{\text{Proportion Of Reserves Allocated To Loop}}{\text{Proportion Of Investment Allocated To Loop}}$$

For example, an adjustment ratio of 0.97194 for Cable & Wire Facilities means the portion of reserves allocated to Loop is 97.19% of the portion of Cable & Wire Facilities investment allocated to Loop. Exhibit 3 describes the derivation of these ratios.

In the *Rate of Return Reform Order* the Commission re-prescribed the 11.25 percent rate of return to 9.75 percent with a 25 basis points reduction per year over a six year transition period. July 1, 2016 was the effective date for the initial transitional rate of 11%. That rule was first implemented in the average schedules CPL formula by an Interim Modification filed by NECA on May 13, 2016,[12] effective July 1, 2016. The second step

[12] *NECA 2016 Further Modification of the Average Schedule Universal Service High Cost Loop Support Formula,* WC Docket No. 05-337.

of the rate of return transition, to 10.75 percent, will be effective July 1, 2017. Because the 2017 HCL support year encompasses two transitional rate of return reductions, NECA applied a blended rate of return of 10.875 percent when calculating algorithm lines 23 and 24 to estimate cost per loop. This represents an 11 percent rate of return in effect for the first six months of 2017 and 10.75 percent for the last six months of 2017.

Exhibit 2

Allocation Of Average Schedule Accounts To Loop Cost Categories

Algorithm Line	Loop Cost Component	Factor Description	Cost Allocation Formula
AL3		Factor A: C&WF Cat. 1/Total C&WF	Average ratio by region based on cost company data
AL4		Factor B: COE Cat. 4.13/Total COE	Average ratio by region based on cost company data
AL5		Factor C (C&WF Gross Allocator): C&WF Cat. 1/Total Plant in Service	Average ratio by region based on cost company data
AL6		Factor D (COE Gross Allocator): COE Cat. 4.13/Total Plant in Service	Average ratio by region based on cost company data
AL13	C&WF Maintenance	C&WF Maintenance Expense assigned to Cat. 1 C&WF R&B Factor = C&WF R&B Exp. / C&WF Expense	Factor A x (1 - C&WF R&B Factor) x C&WF Expense[13]
AL14	COE Maintenance	COE Maintenance Expense assigned to Cat. 4.13 COE R&B Factor = COE R&B Exp. / COE Expense	Factor B x (1 - COE R&B Factor) x COE Expense
AL15	Network and General Support Expense	Network Support Expense plus General Support Expense assigned to C&WF Cat. 1 and to COE Cat. 4.13 Net. Spt. R&B Factor = Network Spt. R&B Exp. / Network Support Expense Gen. Spt. R&B Factor = General Spt. R&B Exp. / General Support Expense	(Factor C + Factor D) x [(1 - Network Support R&B Factor) x Network Support Expense + (1 - General Support R&B Factor) x General Support Expense]

[13] Amounts underlined are data or calculated values of sample average schedule study areas. Other values are cost company factors.

Exhibit 2

Allocation Of Average Schedule Accounts To Loop Cost Categories

Algorithm Line	Loop Cost Component	Factor Description	Cost Allocation Formula
AL16	Network Operations Expense	Network Operations Expense assigned to C&WF Cat. 1 and to COE Category 4.13 Ntwk. Oper. R&B Factor = Ntwk. Oper. R&B Exp. / Ntwk. Oper. Expense	(Factor C + Factor D) x (1 - Network Operations R&B Factor) x Network Operations Expense
AL17	C&WF Depreciation & Amortization Expense	Depreciation & Amortization Expense assigned to C&WF Category 1 Dep. Exp. C&WF Factor = Dep. & Amort. Exp. CWF / C&WF Tangibles -- C&WF = Amort. Tangible Assets -- C&WF / Amort. Tangible Assets Depreciation--Tang. Factor = (Deprec.—Tangibles) / Tangibles	Factor A x [(Depreciation Expense Factor--C&WF x C&WF) + (Depreciation Expense Factor—Tangibles x Tangibles) + (Tangibles Factor -- C&WF x Amort. Tangible Assets)]

Exhibit 2

Allocation Of Average Schedule Accounts To Loop Cost Categories

Algorithm Line	Loop Cost Component	Factor Description	Cost Allocation Formula
AL18	COE Depreciation & Amortization Expense	Depreciation & Amortization Expense assigned to COE Category 4.13 Dep. Exp. COE Factor = Dep. & Amort. Exp. COE / COE Tangibles -- COE = Amort. Tangible Assets -- COE / Amort. Tangible Assets Depreciation--Tang. Factor = Deprec.--Tangibles / Tangibles	Factor B x [(Depreciation Expense Factor--COE x COE) + (Depreciation Expense Factor--Tangibles x Tangibles) + (Tangibles Factor -- COE x Amort. Tangible Assets)]
AL19	Corporate Operations Expense	Corporate Operations Expense assigned to C&WF Cat. 1 and to COE Cat. 4.13, limited as per § 54.1308(a)(4)[14]	(Factor C + Factor D) x Corporate Operations Expense

[14] For purposes of the USF Data Submission, Corporate Operations Expenses were subject to the cap imposed by the Commission in its Report and Order and Further Notice of Proposed Rulemaking released November 18, 2011. *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17663 (2011) ¶¶ 232-233.

Exhibit 2

Allocation Of Average Schedule Accounts To Loop Cost Categories

Algorithm Line	Loop Cost Component	Factor Description	Cost Allocation Formula
AL20	Operating Taxes	Operating Taxes assigned to C&WF Cat. 1 and to COE Cat. 4.13 Operating Taxes Factor = Operating Taxes / Total Plant in Service	(Factor C + Factor D) x Operating Taxes Factor x Total Plant in Service
AL21 + AL22	Benefits & Rents	Benefits & Rents other than Corporate Operations Expense assigned to C&WF Cat. 1 and COE Cat. 4.13 C&WF R&B Factor = C&WF R&B Expense / C&WF Expense COE R&B Factor = COE R&B Expense / COE Expense Net. Sup. R&B Factor = Network Sup. R&B Exp. / Network Support Expense Gen. Sup. R&B Factor = General Sup. R&B Exp. / General Support Expense	(Factor C + Factor D) x [(C&WF R&B Factor x C&WF Expenses) + (COE R&B Factor x COE Expenses) + (Net. Sup. R&B Factor x Net. Sup. Expenses) + (General Sup. R&B Factor x General Sup. Expenses) + (Net. Op. R&B Factor x Net. Op. Expenses)]

Exhibit 2

Allocation Of Average Schedule Accounts To Loop Cost Categories

Algorithm Line	Loop Cost Component	Factor Description	Cost Allocation Formula
AL23	C&WF Return	Return Component for C&WF Cat. 1 C&WF Cat. 1 Factor = C&WF Cat. 1 / C&WF Tangibles -- C&WF Factor = Tangibles --C&WF / Tangibles Accum. Dep. Adj. Ratio -- C&WF (See Exhibit 3)	{(C&WF Cat. 1 Factor x C&WF) + (Tangibles Factor--C&WF x Tangibles) + (Factor C x Materials & Supplies) - Factor A x [(Accum. Dep. Adj. Ratio – C&WF x Acc. Dep. x %C&WF of TPIS) + (Net N.C. D. OIT Factor--C&WF x TPIS) + (Tangibles Factor--C&WF x Acc. Amo.-Tangibles)]} x .10875
AL24	COE Return	Return Component for COE Cat. 4.13 COE Cat. 4.13 Factor = COE Cat. 4.13 / COE Tangibles -- COE Factor = Tangibles --COE / Tangibles Accum. Dep. Adj Ratio -- COE. (See Exhibit 3)	{(COE Cat. 4.13 Factor x COE) + (Tangibles Factor--COE x Tangibles) + (Factor D x Materials & Supplies) - Factor B x [(Accum. Dep. Adj Ratio -- COE x Acc. Dep x %COE of TPIS) + (Net N.C. Def. OIT Factor --COE x TPIS) + (Tangibles Factor--COE x Acc. Amo.-Tangibles)]} x .10875
AL25	Loop Costs	Total Unseparated Loop Cost	Sum of AL13 -- AL24
AL26	Cost Per Loop	Study Area Cost per Loop	AL25 Divided by Total Loops

Exhibit 3

Adjustment Ratios for Allocation of Total Accumulated Depreciation

Description	Calculation	Factor name
COE Transmission fraction of TPIS	Sum DL240 / Sum DL160	TPIS % 2230
C&W Facilities fraction of TPIS	Sum DL255 / Sum DL160	TPIS % 2410
COE Transmission fraction of Tot. Acc. Dep.	Sum DL270 / Sum DL190	ACCT 3100 % 2230
C&W Facilities fraction of Tot. Acc. Dep.	Sum DL280 / Sum DL190	ACCT 3100 % 2410
Adjustment Ratio for COE Transmission.	ACCT 3100 % 2230 / TPIS % 2230	Accum. Dep. Adj. Ratio - COE
Adjustment Ratio for C&W Facilities.	ACCT 3100 % 2410 / TPIS % 2410	Accum. Dep. Adj. Ratio - C&WF

DL240 = COE Transmission (Acct 2230)
DL255 = C&WF Total (Acct 2410)
DL160 = Total Plant in Service (TPIS)
DL270 = Accumulated Depreciation - COE Transmission Equipment
DL280 = Accumulated Depreciation - Cable & Wire Facilities
DL190 = Accumulated Depreciation

Exhibit 4 displays the computed values of the loop cost categorization factors from sample cost companies, in each of NECA's five geographical regions.[15]

[15] Regions are defined by groups of states or territories as follows:
REGION 1 (Eastern): CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, PR, RI, VA, VI, VT, WV
REGION 2 (Southern): AL, FL, GA, KY, LA, MS, NC, SC, TN
REGION 3 (Southwestern): AR, HI, IL, IN, KS, MI, MO, MP, OH, OK, TX, WI
REGION 4 (Western): AK, AS, AZ, CA, CO, GU, ID, MT, NM, NV, OR, UT, WA, WY
REGION 5 (North Central): IA, MN, ND, NE, SD

Exhibit 4

Loop Cost Categorization Factors from Sample Cost Companies

FACTOR	REGION1	REGION2	REGION3	REGION4	REGION5
FACTOR A	0.88157	0.91774	0.87279	0.86392	0.88970
FACTOR B	0.32643	0.46939	0.50034	0.45648	0.44289
FACTOR C	0.48028	0.57342	0.56430	0.52280	0.54104
FACTOR D	0.10025	0.11989	0.11573	0.11483	0.11817
C&WF RENTS & BENEFITS	0.31201	0.32574	0.28540	0.27935	0.26173
COE RENTS & BENEFITS	0.12055	0.12430	0.17497	0.15116	0.16526
TANGIBLES - C&WF	0.00000	0.00000	0.61650	0.03285	0.24901
TANGIBLES - COE TRANSMISSION	0.00000	0.00000	0.00000	0.06095	0.05586
TANGIBLES - COE CATEGORY 4.13	0.00000	0.00000	0.00000	0.06095	0.00000
ACCUMULATED DEPRECIATION - C&WF	0.53818	0.59829	0.60806	0.57226	0.52971
ACCUMULATED DEPRECIATION - COE TRANS.	0.19115	0.23171	0.22076	0.22382	0.26706
NET NON-CURR DEF FIT-C&WF- Commercial Comp.	0.02727	0.02329	0.02723	0.01931	0.02442
NET NON-CURR DEF FIT-C&WF- Coops	0.00000	0.00000	0.00000	0.00000	0.00000
NET NON-CURR DEF FIT-COE TRANS.- Comm Comp.	0.00958	0.00852	0.00723	0.00778	0.01008
NET NON-CURR DEF FIT-COE TRANS.- Coops	0.00000	0.00000	0.00000	0.00000	0.00000
NETWORK SUPPORT RENTS & BENEFITS	0.05010	0.13759	0.11968	0.27383	0.19828
GENERAL SUPPORT RENTS & BENEFITS	0.16685	0.16468	0.22518	0.32668	0.19629
NETWORK OPERATIONS BENEFITS	0.13550	0.19012	0.23066	0.25586	0.23024
DEPRECIATION EXPENSE - C&WF	0.03885	0.04166	0.03959	0.04039	0.04049
DEPRECIATION EXPENSE -COE TRANSMISSION	0.05841	0.07184	0.07373	0.07206	0.07867
DEPRECIATION - TANGIBLES	0.00000	0.00000	0.01679	0.02464	0.00000
ACCUM. DEP. ADJ. RATIO - COE	0.99688	1.12203	1.17537	1.11083	1.22343
ACCUM. DEP. ADJ. RATIO - C&WF	0.97194	0.93788	0.92313	0.92562	0.85144
OPERATING INCOME TAX - Cooperatives	0.00577	0.00426	0.00476	0.00769	0.00350
OPERATING INCOME TAX-Commercial Companies	0.00661	0.01623	0.01445	0.01342	0.00863

2. Calculation of Loop Cost for Sample Average Schedule Companies

NECA calculated loop costs for sample average schedule companies consistent with the Part 54 rules that apply to cost companies. Accordingly, for each average schedule study area in the sample, the loop cost is the accumulation of components of accounts assigned to loop. Costs assigned to the loop include Cable & Wire Facilities investment in Category 1, COE investment in Category 4.13 and other accounts assigned proportionately based on these accounts. The portion of costs in accounts assigned to loop were determined using the allocation ratios derived from cost companies.

NECA applied the cost categorization factors shown in Exhibit 4 to uncategorized projected accounts from sample average schedule study areas to produce unseparated average schedule category-level loop costs. Section 54.1308 of the Commission's rules describes various unseparated accounts making up a study area's total unseparated loop costs. Following this method, the unseparated loop cost for each sample average schedule study area was determined by summing the following categories related to COE Category 4.13 and C&WF Category 1 plant, as follows.

Loop Cost = Maintenance Expense + Network & General Support Expenses
+ Network Operations Expense + Depreciation & Amortization Expense
+ Corporate Operations Expense + Operating Taxes + Benefits Expense
+ Rent Expense + Return on Investment

Exhibit 5 presents the results of loop cost calculations for the average schedule sample.

These calculated cost per loop amounts, when used with the payment algorithm

prescribed in section 54.1310 of the Commission's rules, produce $21.7 million in uncapped USF expense adjustments sample companies would be entitled to receive if they were to conduct cost studies.

NECA estimated the amount of uncapped expense adjustment that would be calculated for the entire population of average schedule companies based on individual cost studies, by using the sample weights described in Section C. Based on this calculation, the total uncapped expense adjustment amount for the entire population of average schedule companies based on cost studies would be $25.7 million in 2017.

Exhibit 5

Allocation of Unseparated Total Accounts to Loop
Weighted Total Data from the Average Schedule Sample

HCL Algorithm Line	Cost Category	Calculation Method	Total Account Per Loop	Avg Loop %	Loop Cost Per Loop
1	C&WF Category 1	Cost Company Factor	3598.61	0.8950	3220.69
2	COE Category 4.13	Cost Company Factor	1910.79	0.4481	856.17
3	Factor A	% C&WF Cat 1 of Total C&WF	3598.95	0.8949	3220.69
4	Factor B	% COE Cat 4.13 of Total COE	1910.79	0.4481	856.17
5	Factor C	% C&WF Cat 1 of TPIS	6368.43	0.5057	3220.69
6	Factor D	% COE Cat 4.13 of TPIS	6368.43	0.1344	856.17
7	Materials & Supplies for CWF Cat 1	Factor C x M&S	61.02	0.5205	31.76
8	Materials & Supplies for COE Cat 4.13	Factor D x M&S	61.02	0.1188	7.25
9	Reserves for CWF Cat 1	Factor A x Reserves	4595.32	0.4559	2095.05
10	Reserves for COE Cat 4.13	Factor B x Reserves	4595.32	0.1654	760.01
11	Factor E	% Net C&WF Cat 1 of Net TPIS	1836.11	0.6303	1157.39
12	Factor F	% Net COE Cat 4.13 of Net TPIS	1836.11	0.0563	103.41
13	Maintenance of C&WF Cat 1	Factor A x (Maintenance - R & B)	106.40	0.6333	67.38
14	Maintenance of COE Cat 4.13	Factor B x (Maintenance - R & B)	86.30	0.3506	30.26
15a	Network Support Assigned to Loop	(Fact C + Fact D) x (Net Sup Exp - R&B)	5.67	0.5119	2.90
15b	General Support Assigned to Loop	(Fact C + Fact D) x (Gen Sup Exp - R&B)	50.18	0.5109	25.64
16	Network Operations Assigned to Loop	(Fact C + Fact D) x (Net Ops Exp - R&B)	69.05	0.5072	35.02
17	Depreciation of C&WF Cat 1	C&WF Cat 1 x C&WF Deprec Rate	3220.69	0.0406	130.73
18	Depreciation of COE Cat 4.13	COE Cat 4.13 x COE Deprec Rate	856.17	0.0667	57.06
19	Corporate Oper. Exp. Assigned to Loop	(Fact C + Fact D) * Corp. Oper. Exp.	193.46	0.6053	117.11
20	Operating Taxes Assigned to Loop	(Factor C + Factor D) x Oper Taxes	57.35	0.6354	36.44
21	Benefits in Oper. Exp. Assigned to Loop	(Fact C + Fact D) x (Benefits - Corp Ops)	248.54	0.2010	49.96
22	Rents in Oper Exp Assigned to Loop	(Fact C + Fact D) x (Rents - Corp Ops)	248.54	0.0420	10.44
23	Return on C&WF Cat 1	.1125 x Net CWF Cat 1	1157.39	0.1088	125.87
24	Return on COE Cat 4.13	.1125 x Net COE Cat 4.13	103.41	0.1088	11.25
25	Total Loop Cost	Sum 13 Thru 24	6403.13	0.1093	700.06

3. Cost per Loop Formula for 2017

This study develops a formula simulating the cost per loop data of sample companies, which is used to compute loop costs as the basis of expense adjustments for all average schedule companies. The underlying basis of the formula is the comparison of cost per loop data obtained from average schedule sample companies to their ratios of loops per exchange. Based on the relationship of these variables, a statistical model is developed and is used to compute HCL cost per loop for each member of the total population of average schedule companies.

NECA used cost per loop data of sample average schedule study areas to derive a statistical regression model. This model form was first presented in the 2002 NECA Modification of Average Schedule Universal Service Formulas, filed on October 1, 2001, and approved by the Commission in its July 30, 2002 Order.[16] The model relating cost per loop to loops per exchange in this year's study produces statistically significant coefficients. NECA proposes use of this model in 2017.

In Appendix B of this filing NECA presents HCL cost per loop data for sample average schedule study areas. This section explains the use of that data to develop a statistical model for calculating CPL values for each study area in the average schedule population.

[16] *See Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *National Exchange Carrier Association, Inc. Proposed 2002 Modification of Average Schedule Formulas*, Order, 17 FCC Rcd. 14236 (2002).

This model uses the outlier accommodation method for regression, first introduced in NECA's December 31, 1998 average schedule filing[17] and approved by the Commission.[18] The threshold used in this calculation was equal to three standard deviations of the residuals. The outlier accommodation method uses weighted linear regression, with regression weights defined in two steps. First residuals and DFFITS values for each observation are determined by an unweighted linear regression. Then regression weights are calculated using these values.

If Abs(residual) <= threshold, then regression $weight_i = 1$

Else regression $weight_i = \left(\frac{C/2}{DFFITS_i} \right)^2$, where $C = 2\sqrt{\frac{P+1}{N-P-1}}$

P = number of model coefficients, N = number of observations

The model relates the CPL variable (the dependent variable) to the loops per exchange variable using constrained linear regression. The model reflects the CPL trend of sample companies, which show relatively higher costs associated with lower values of loops per exchange. This trend decreases at one rate for the smallest study areas, then decreases at slower rates for the group of midsize average schedule study areas, and finally levels off for the larger study areas.

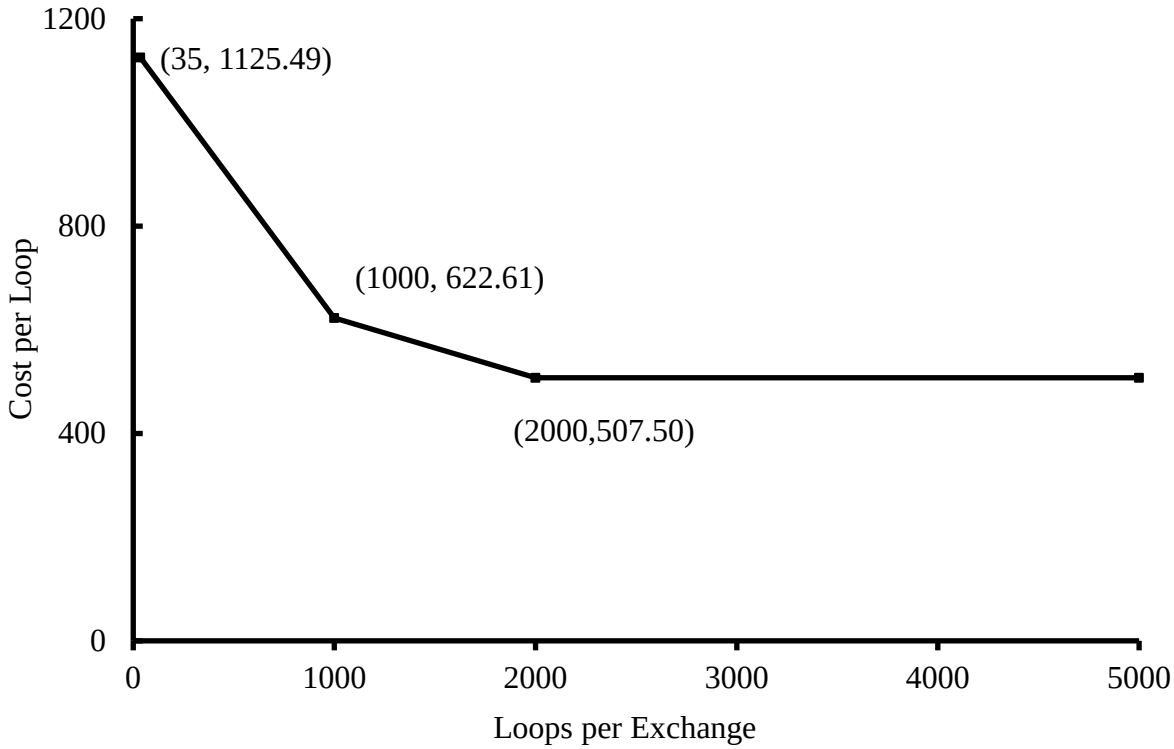
[17] *See 1999 NECA Modifications of Average Schedules*, National Exchange Carrier Association, Inc. (filed Dec. 31, 1998).

[18] *See National Exchange Carrier Association, Inc., Proposed Modifications to the 1999-2000 Interstate Average Schedule Formulas*, ASD 99-18, Order, 14 FCC Rcd. 9803 (1999).

The model consists of a set of connected lines, each corresponding to a designated range of loops per exchange. In this year's study, as in last year's study, the best fitting model supported three distinct ranges of loops per exchange values delimited by two breakpoints. NECA selected the formula breakpoints to assure support amounts would be accurately distributed across study areas in all size ranges. NECA tested sets of breakpoints and regression coefficients iteratively to determine the combination with the best fit to the data, resulting in breakpoints of 1,000 and 2,000 loops per exchange.

Exhibit 6

Cost Per Loop Model



To fit the Cost per Loop formula to sample company data, NECA first calculated the overall average CPL of study areas with loops per exchange exceeding 2,000, using the standard weighted ratio estimation method. This method produced a formula Cost per Loop for this group of study areas of $507.50. This CPL is a good statistical representation of the data for these study areas, which show a consistently flat trend as relates to loops per exchange.

$$Cost\ Per\ Loop\ (a_3) = \frac{\sum_{ECs > (2000\ LPE)} SampleWeight_i \cdot OutlierWeight_i \cdot Cost\ Per\ Loop_i \cdot Loops_i}{\sum_{ECs > (2000\ LPE)} SampleWeight_i \cdot OutlierWeight_i \cdot Loops_i}$$

Next, NECA used linear regression to solve for other parameters of the model. The regression model is a sequence of three connected straight lines specified as follows (CPL designates the study area's cost per loop; LPE designates each study area's loops per exchange, and BP designates breakpoint).

$$CPL_i = [a_1 + b_1\ LPE_i]\delta_{1i} + [a_2 + b_2\ LPE_i]\delta_{2i} + a_3\ \delta_{3i}$$

where: $\delta_{1i} = 1$, *if* $(LPE_i <= BP_1)$, *and* $\delta_{1i} = 0$ *otherwise.*

$\delta_{2i} = 1$, *if* $(BP_1 < LPE_i <= BP_2)$, *and* $\delta_{2i} = 0$ *otherwise.*

$\delta_{3i} = 1$, *if* $(LPE_i, > BP_2)$ *and* $\delta_{3i} = 0$ *otherwise.*

The model is constrained at the breakpoints, BP_1 and BP_2, to insure connectivity of the line segments, as follows:

$$a_1 + b_1 \cdot BP_1 = a_2 + b_2 \cdot BP_1$$

$$a_2 + b_2 \cdot BP_2 = a_3 = \$507.50.$$

The resulting coefficients are calculated using standard linear regression methods, including outlier weighting as described earlier in this section. This model fits the CPL data most accurately, and reflects relationships between loop cost and loops per exchange.

4. Operating Expense Limit Factor for 2017

In the *Rate of Return Reform Order*,[19] the Commission adopted limits on operating expenses (Opex) to be recovered through HCL support with January 1, 2017 as effective date. Consistent with the rules, NECA developed an Opex limit factor for average schedule companies to be applied to companies' formula-estimated CPLs.

NECA calculated the Opex limit factor using accounting data of sample average schedule companies. For each sample company, the sum of company's total accounts used to determine the operating expenses eligible for support was compared to the Opex limit generated by the Commission's regression model. If the sum of actual eligible operating costs exceeded the FCC's Opex limit, operating cost was capped at the limit level, and the limit was applied proportionately to all accounts used to determine eligible operating expenses.

[19] *Rate of Return Reform Order* ¶¶ 95-104.

In 2017, the first year in which the Opex cap is to be implemented Opex amounts will be limited by one-half of the required reduction.[20] In this year's study, there are three out of 216 sample average schedule companies affected by the Opex limitation.

Using the limited Opex, NECA calculated each sample company CPL and USF revenue requirement (RRQ), calculated as CPL x loops. By comparing the sample weighted USF RRQ based on limited operating expenses to the sample weighted USF RRQ based on unlimited operating expenses for companies subject to Opex limits, NECA determined the proportionate share that the effect of the Opex limits would have on the sample average schedule companies. The Opex limit factor calculation is shown below.

Opex limit factor =

Total Weighted Opex Limit Adjusted USF RRQ /

Total Weighted Actual USF RRQ

Opex limit factor[21] = 0.999858

The proposed Cost per Loop formula and Opex limit factor are shown in Exhibit 1. Using the proposed formula, loops per exchange data, as described in Section C of this filing, and Opex limit factor, NECA determined proposed CPL values for each average schedule study area. The proposed CPL values are higher than the current formula CPL values for all study areas currently receiving payments.

[20] *See id.*¶ 103.

[21] For companies subject to part 54.305 rules and Alaska companies Opex limit factor = 1.

E. HCL Payments for the Population of Average Schedule Companies

In 2017, actual HCL payments will be determined using each company's proposed CPL value, the expense adjustment algorithm, the frozen NACPL value, and a pro-rata adjustment factor calculated according to the Commission's rules to meet the fund cap. Following is a discussion of the effects of these calculations.

According to the Commission's rule 54.1310 NECA calculates expense adjustments in two steps. First, each company's CPL is compared to the frozen NACPL of $647.87 to calculate its expense adjustment by applying the USF payment algorithm as specified in 54.1310(a)(1) and (2) . Second, if the expense adjustments for all study areas (cost and average schedules) exceed the HCL cap, each study area's expense adjustment from the first step is reduced by the ratio of the HCL support cap to the aggregate expense adjustment for all study areas. This ratio, referred to here as the pro–rata adjustment factor, is estimated to be 0.827921.[22]

Although average schedule companies would receive $18.6[23] million based on the proposed formula and the frozen NACPL payment calculation, the capping of the fund is expected to limit this payment to $15.4 million through the application of the pro-rata adjustment factor.[24] Because this view does not reflect quarterly updates to HCL data submissions to be filed with the FCC after

[22] This is NECA's initial estimate of the pro-rata adjustment factor for 2017, based on data reported to date. This factor is subject to change based on quarterly updates and other data changes.

[23] Opex limitation impact on average schedule companies' total 2017 HCL support payments is reduction of 0.1% (or -$15,501).

[24] *See also* note 4 regarding additional USAC adjustments not reflected in this calculation.

October 1 of this year, as permitted by section 54.1306 of the Commission's rules, decreases in the pro-rata adjustment factor can be expected which will produce lower payments for all rate of return companies, including average schedule companies.

Average schedule companies that are expected to receive payments in 2017 are those with loops per exchange less than 764. While the cost per loop for all average schedule companies currently receiving payments will increase as a result of the proposed formula, one study area will realize total payment reductions due to a significant decrease in loops.

F. Effects of Changes on Average Schedule Companies

This section provides a summary comparison of proposed payments of $15.4 million and current payments of $10.6 million, categorized by line size group and by percent change group. Exhibit 7 summarizes changes in monthly payments by study area size.

Exhibit 7

Proposed Monthly HCL Payment Changes By Loop Size

Access Line Size Group	Count of Study Areas	2016 USF Payments (current)	2017 Proposed Payment (Fund Cap Applied)	Monthly Change per Loop	Percent Difference
0 to 500	92	$195,733	$268,981	$2.81	37.42
500 to 1000	73	$183,747	$272,902	$1.65	48.52
1000 to 2500	75	$270,930	$382,693	$1.03	41.25
2500 to 5000	38	$183,864	$290,684	$0.79	58.10
5000 to 10000	15	$45,261	$68,656	$0.23	51.69
10000 to 20000	9	$0	$0	$0.00	0.00
Over 20000	4	$0	$0	$0.00	0.00

Exhibit 8 summarizes the monthly changes in expense adjustments by percent change bands.

Exhibit 8

Proposed Monthly HCL Payment Changes By Per Cent Change Bands

Percent Change Group	Count of Study Areas	2016 USF Payments (current)	2017 Proposed Payment (Fund Cap Applied)	Monthly Change per Loop
-10% to -5%	1	$5,978	$5,581	-$0.96
0% to 2%	105	$0	$0	$0.00
10% to 20%	3	$3,615	$4,244	$2.58
20% to 30%	18	$72,010	$92,543	$3.01
30% to 40%	93	$560,682	$752,252	$2.79
40% to 50%	18	$93,649	$134,424	$2.30
50% to 60%	20	$76,247	$117,573	$2.15
60% to 70%	2	$12,986	$20,883	$2.18
70% to 80%	3	$4,318	$7,458	$1.80
80% to 90%	3	$13,131	$24,479	$2.25
90% to 100%	1	$1,054	$2,098	$1.68
100%	10	$0	$8,749	$0.59
100% to 200%	12	$26,875	$65,125	$2.28
200% to 300%	5	$3,809	$13,385	$1.83
Over 300%	12	$5,181	$35,122	$1.87

G. Conclusion

The proposed HCL formula shown in Exhibit 1 herein conforms to FCC USF reporting rules, produces payments consistent with those experienced by similarly situated cost companies as required by the Commission's Part 69 rules, and yields reasonable changes in payments to average schedule companies. The Commission should approve this formula to go into effect on January 1, 2017.

Appendix A
2016 Average Schedule USF Study
Study Area Code / Study Area Name

Obs	Study Area Code	Study Area Name
1	100005	COBBOSSEECONTEE TEL. CO.
2	100019	OXFORD COUNTY TEL. & TELE. CO.
3	100020	PINE TREE TELEPHONE LLC
4	100022	SACO RIVER TELEPHONE LLC
5	120042	DIXVILLE TEL. CO.
6	120043	DUNBARTON TEL. CO.
7	140053	FRANKLIN TEL. CO.-VT
8	140064	SHOREHAM TELEPHONE LLC
9	150076	CASSADAGA TEL. CORP.
10	150125	STATE TEL. CO.
11	170156	THE CITIZENS TELEPHONE COMPANY OF KECKSBURG
12	170171	HICKORY TEL. CO.
13	170175	IRONTON TEL. CO.
14	170191	THE NORTH-EASTERN PENNSYLVANIA TELEPHONE CO.
15	170195	ARMSTRONG TEL. CO. NORTH
16	170196	PALMERTON TELEPHONE COMPANY
17	170197	PENNSYLVANIA TEL. CO.
18	170200	PYMATUNING IND. TEL. CO.
19	170205	SOUTH CANAAN TEL. CO.
20	170210	VENUS TEL. CORP.
21	170277	WEST SIDE TEL. CO.-PA
22	190220	BURKE'S GARDEN TEL. CO., INC.
23	190225	CITIZENS TEL. COOP.-VA
24	190226	LUMOS TELEPHONE INC.
25	190237	HIGHLAND TEL. COOP.-VA
26	190238	MGW TELEPHONE COMPANY, INC.
27	190239	NEW HOPE TELEPHONE COOPERATIVE
28	190243	PEMBROKE TEL. COOP.
29	190250	SHENANDOAH TEL. CO.
30	197251	SHENANDOAH TELEPHONE COMPANY - NR
31	200258	WAR TELEPHONE LLC
32	220324	VALLEY TELEPHONE CO., LLC
33	220380	PROGRESSIVE RURAL TEL. COOP., INC.
34	220389	TRENTON TEL. CO.
35	230478	ELLERBE TEL. CO.
36	230491	NORTH STATE TEL. CO.-NC dba NORTH STATE COMM.
37	230494	PINEVILLE TEL. CO.
38	230496	RANDOLPH TEL. MEMB. CORP. DBA RANDOLPH COMM.
39	230497	SURRY TELEPHONE MEMBERSHIP CORPORATION
40	230500	SERVICE TEL. CO.
41	230501	SKYLINE TEL. MEMB. CORP.
42	230503	SURRY TELEPHONE MEMBERSHIP CORPORATION
43	230505	TRI-COUNTY TEL. MEMB. CORP.-NC
44	230511	YADKIN VALLEY TEL. MEMB. CORP.
45	240515	CHESNEE TEL. CO.
46	240516	CHESTER TEL. CO.-SC
47	240532	LOCKHART TEL. CO., INC.
48	240535	NORWAY TEL. CO., INC.
49	240541	RIDGEWAY TEL. CO., INC.

Appendix A
2016 Average Schedule USF Study
Study Area Code / Study Area Name

Obs	Study Area Code	Study Area Name
50	240546	SANDHILL TEL. COOP., INC.
51	250283	BRINDLEE MOUNTAIN TELEPHONE LLC
52	250285	CASTLEBERRY TEL. CO., INC.
53	250311	OAKMAN TEL. CO., INC.
54	250312	OTELCO TELEPHONE LLC
55	260398	BRANDENBURG TEL. CO., INC.
56	260408	GEARHEART COMM. DBA COALFIELDS TEL. CO.
57	260419	THACKER/GRIGSBY TEL. CO., INC.
58	270428	DELCAMBRE TEL. CO.
59	280451	DECATUR TEL. CO., INC.-MS
60	280467	SMITHVILLE TEL. CO.
61	287449	MYRTLE TEL. CO., INC.
62	290553	BEN LOMAND RURAL TEL. COOP., INC.
63	290554	BLEDSOE TEL. COOP.
64	290565	HIGHLAND TEL. COOP., INC.-TN
65	290570	LORETTO TEL. CO., INC.
66	290598	WEST KENTUCKY RURAL TELEPHONE COOP. CORP.-TN
67	300585	ARCADIA TEL. CO.
68	300588	AYERSVILLE TEL. CO.
69	300589	BASCOM MUTUAL TEL. CO.
70	300591	BUCKLAND TELEPHONE COMPANY
71	300609	DOYLESTOWN TEL. CO.
72	300614	FORT JENNINGS TEL. CO.
73	300619	GLANDORF TEL. CO., INC.
74	300625	KALIDA TEL. CO., INC.
75	300633	MIDDLE POINT HOME TEL. CO.
76	300634	MINFORD TEL. CO., INC.
77	300639	THE NEW KNOXVILLE TEL. CO.
78	300645	OAKWOOD TEL. CO.
79	300650	THE OTTOVILLE MUTUAL TEL. CO.
80	300651	PATTERSONVILLE TEL. CO.-OH
81	300654	RIDGEVILLE TEL. CO.
82	300656	SHERWOOD MUTUAL TEL. ASSOC.
83	300659	TELEPHONE SERVICE CO.
84	300662	VANLUE TEL. CO.
85	300663	VAUGHNSVILLE TEL. CO., INC.
86	300664	WABASH MUTUAL TEL. CO.
87	310675	BARAGA TELEPHONE COMPANY
88	310676	BARRY COUNTY TEL. CO.
89	310678	BLANCHARD TELEPHONE CO.
90	310688	CLIMAX TEL. CO.
91	310694	FARMERS MUT. OF CHAPIN DBA CHAPIN TEL. CO.
92	310703	KALEVA TEL. CO.
93	310725	SAND CREEK TEL. CO.
94	310735	WESTPHALIA TEL. CO.
95	320751	CITIZENS TEL. CORP.-WARREN
96	320756	CRAIGVILLE TEL. CO., INC.
97	320771	GEETINGSVILLE TEL. CO., INC.
98	320778	HOME TEL. CO., INC.

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2016 Average Schedule USF Study
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Obs	Study Area Code	Study Area Name
99	320792	MULBERRY COOP. TEL. CO., INC.
100	320809	COMM. CORP. OF SOUTHERN INDIANA
101	320816	S & W TEL. CO., INC.
102	320826	SWAYZEE TEL. CO., INC.
103	320827	SWEETSER RURAL TEL. CO., INC.
104	320837	WEST POINT TEL. CO., INC.
105	320839	YEOMAN TEL. CO., INC.
106	330842	AMERY TELCOM, INC.
107	330843	AMHERST TEL. CO.
108	330846	BALDWIN TELCOM., INC.
109	330847	BELMONT TEL. CO.
110	330848	BERGEN TEL. CO.
111	330865	CLEAR LAKE TEL. CO., INC.-WI
112	330868	COON VALLEY FARMERS TEL. CO., INC.
113	330872	CUBA CITY TEL. EXCH. CO.
114	330875	DICKEYVILLE TEL. CO.
115	330879	FARMERS IND. TEL. CO.-WI
116	330880	FARMERS TEL. CO.-WI
117	330889	HAGER TELECOM, INC.
118	330896	LAKEFIELD TELEPHONE COMPANY
119	330905	MANAWA TEL. CO.
120	330914	EASTCOAST TELECOM, INC.
121	330925	BAYLAND TELEPHONE, LLC
122	330938	NORTHEAST TEL. CO.
123	330946	SHARON TEL. CO.
124	330951	SOMERSET TEL. CO., INC.
125	340983	CAMBRIDGE TEL. CO.-IL
126	340990	CLARKSVILLE MUTUAL TEL. CO.
127	340993	CROSSVILLE TEL. CO.
128	341016	GENESEO TEL. CO.
129	341017	GLASFORD TEL. CO.
130	341021	THE GRANDVIEW MUTUAL TEL. CO.
131	341024	HAMILTON COUNTY TELEPHONE CO-OP
132	341029	HENRY COUNTY TEL. CO.
133	341041	KINSMAN MUTUAL TEL. CO.
134	341046	LEONORE MUTUAL TEL. CO.
135	341050	MARSEILLES TEL. CO. OF MARS.
136	341053	METAMORA TEL. CO.
137	341062	NEW WINDSOR TEL. CO.
138	341075	REYNOLDS TEL. CO.
139	341086	TONICA TEL. CO.
140	341087	VIOLA HOME TEL. CO.
141	341092	STELLE TEL. CO.
142	351097	ANDREW TEL. CO., INC.
143	351098	ARCADIA TEL. COOP.
144	351101	ATKINS TEL. CO.
145	351107	BALDWIN-NASHVILLE TEL. CO., INC.
146	351108	BARNES CITY COOP. TEL. CO.
147	351112	BREDA TEL. CORPORATION

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2016 Average Schedule USF Study
Study Area Code / Study Area Name

Obs	Study Area Code	Study Area Name
148	351113	BROOKLYN MUTUAL TEL. CO.
149	351114	TITONKA TEL. CO. DBA TITONKA-BURT COMM (BURT)
150	351115	BUTLER-BREMER MUT. TEL. CO.
151	351118	CASCADE COMMUNICATIONS COMPANY
152	351119	CASEY MUTUAL TEL. CO.
153	351121	CENTER JUNCTION TEL. CO., INC.
154	351125	CENTRAL SCOTT TEL.
155	351133	C-M-L TEL. COOP. ASSN.
156	351136	COON CREEK TEL. CO.
157	351137	COON VALLEY COOP. TEL. ASSN., INC.
158	351139	COOP. TEL. CO.
159	351141	CORN BELT TEL. CO.
160	351146	CUMBERLAND TEL. CO.
161	351147	DANVILLE MUT. TEL. CO.
162	351149	FARMERS MUTUAL COOPERATIVE TEL CO (DEFIANCE)
163	351150	DIXON ACQUISITION, LLC
164	351153	DUNKERTON TEL. COOP., INC.
165	351157	ELLSWORTH COOP. TEL. ASSN.
166	351162	FARMERS COOP. TEL. CO.-DYSART
167	351166	FARMERS & MERCHANTS MUTUAL TEL. CO.
168	351168	FARMERS MUTUAL COOP TEL CO- HARLAN
169	351171	FARMERS MUTUAL TEL. CO.-JESUP
170	351173	FARMERS MUTUAL TEL. COOP.-SHELLSBURG
171	351175	FARMERS TEL. CO.-BATAVIA
172	351176	FARMERS TEL. CO.-ESSEX
173	351179	FENTON COOP. TEL. CO.
174	351188	GOLDFIELD TEL. CO.
175	351189	RIVER VALLEY TELECOMMUNICATIONS COOP.
176	351191	GRAND MOUND COOP. TEL. ASSN.
177	351199	HAWKEYE TEL. CO.
178	351202	HOSPERS TEL. EXCHANGE, INC.
179	351203	HUBBARD COOP. TEL. ASSN.
180	351205	HUXLEY COMMUNICATIONS COOPERATIVE
181	351212	JEFFERSON TEL. CO.-IA
182	351213	JORDAN SOLDIER VALLEY TELEPHONE COMPANY
183	351222	LA MOTTE TEL. CO.
184	351228	LONE ROCK COOP. TEL. CO.
185	351232	LYNNVILLE TELEPHONE COMPANY
186	351235	FARMERS MUTUAL COOPERATIVE TEL CO (MANILLA)
187	351238	MARTELLE COOP. TEL. ASSN.
188	351239	MASSENA TEL. CO.
189	351241	MECHANICSVILLE TEL. CO.
190	351242	MILES COOP. TEL. ASSN.
191	351246	MINERVA VALLEY TEL. CO., INC.
192	351247	MODERN COOP. TEL. CO.
193	351250	MUTUAL TEL. CO. OF MORNING SUN
194	351257	NORTH ENGLISH COOP. TEL. CO.
195	351260	NORTHWEST IOWA TELEPHONE, LLC
196	351261	NORTHWEST TEL. COOP.

Appendix A
2016 Average Schedule USF Study
Study Area Code / Study Area Name

Obs	Study Area Code	Study Area Name
197	351264	OLIN TEL. CO., INC.
198	351265	ONSLOW COOP. TEL. ASSN.
199	351266	ORAN MUTUAL TEL. CO.
200	351269	PALO COOPERATIVE TELEPHONE ASSOCIATION
201	351270	PALMER MUTUAL TEL. CO.
202	351273	PEOPLES TEL. CO.-IA
203	351275	PRAIRIEBURG TEL. CO., INC.
204	351278	READLYN TEL. CO.
205	351282	ROCKWELL COOP. TEL. ASSN.
206	351283	ROYAL TEL. CO.
207	351285	SAC COUNTY MUTUAL TEL. CO.
208	351291	SCHALLER TEL. CO.
209	351292	SEARSBORO TEL. CO.
210	351293	SHARON TEL. CO.
211	351301	SOUTHWEST TEL. EXCH., INC.
212	351302	SPRINGVILLE COOP. TEL. ASSN.
213	351306	SULLY TEL. ASSOC.
214	351307	SUPERIOR TEL. COOP.
215	351308	TEMPLETON TEL. CO.
216	351309	TERRIL TELEPHONE COOPERATIVE
217	351310	TITONKA TEL. CO. DBA TITONKA-BURT COMM
218	351319	VAN BUREN TEL. CO., INC.
219	351320	VAN HORNE COOP. TEL. CO.
220	351322	VENTURA TEL. CO., INC.
221	351331	WEST IOWA TEL. CO.
222	351334	WESTERN IOWA TEL. ASSN.
223	351335	WESTSIDE INDP. TEL. CO.
224	351336	WILTON TEL. CO.
225	351342	WOOLSTOCK MUT. TEL. ASSN.
226	351344	PRAIRIE TEL. CO., INC.
227	351424	MABEL COOP. TEL. CO.-IA
228	361348	WILDERNESS VALLEY TELEPHONE COMPANY, INC.
229	361353	CITY OF BARNESVILLE TEL. CO.
230	361356	BENTON COOP. TEL. CO.
231	361365	CALLAWAY TEL. CO.
232	361372	CLEMENTS TEL. CO.
233	361390	FEDERATED TEL. COOP.
234	361396	GARDONVILLE COOP. TEL. ASSN.
235	361401	HALSTAD TEL. CO.
236	361403	FEDERATED TELEPHONE COOPERATIVE
237	361404	HARMONY TEL. CO.
238	361408	HOME TEL. CO.-MN
239	361409	HUTCHINSON TELEPHONE COMPANY
240	361413	MID STATE TEL. CO. DBA KMP TEL. CO.
241	361423	RUNESTONE TELEPHONE ASSOCIATION
242	361424	MABEL COOPERATIVE TELEPHONE CO.- MN
243	361430	MELROSE TELEPHONE COMPANY
244	361431	MIDWEST TEL. CO.
245	361439	MINNESOTA VALLEY TEL. CO. INC.

Appendix A
2016 Average Schedule USF Study
Study Area Code / Study Area Name

Obs	Study Area Code	Study Area Name
246	361440	CANNON VALLEY TELECOM, INC.
247	361443	LORETEL SYSTEMS, INC.
248	361450	PARK REGION MUTUAL TEL. CO.
249	361472	REDWOOD COUNTY TEL. CO.
250	361474	ROTHSAY TELEPHONE COMPANY INC.
251	361475	RUNESTONE TEL. ASSN.
252	361476	SACRED HEART TEL. CO.
253	361479	SCOTT RICE TEL. CO. dba INTEGRA TELECOM
254	361487	STARBUCK TEL. CO.
255	361495	VALLEY TEL. CO.-MN
256	361499	CROSSLAKE TELEPHONE COMPANY
257	361500	NORTHERN TELEPHONE COMPANY OF MN
258	361502	WESTERN TELEPHONE COMPANY
259	361505	WIKSTROM TELEPHONE COMPANY INC.
260	361508	WINTHROP TEL. CO.
261	361512	WOLVERTON TELEPHONE COMPANY
262	361515	ZUMBROTA TELEPHONE COMPANY
263	361654	INTERSTATE TELECOMMUNICATIONS COOP., INC.-MN
264	371530	CONSOLIDATED TELCO, INC.
265	371555	HAMILTON TELEPHONE COMPANY
266	371563	HOOPER TELEPHONE COMPANY
267	371581	PIERCE TELEPHONE COMPANY
268	371590	SODTOWN TEL. CO.
269	381509	WOLVERTON TEL. CO.
270	381601	ABSARAKA COOP TELEPHONE CO.
271	381614	POLAR COMMUNICATIONS MUTUAL AID CORP (A)
272	381615	GRIGGS COUNTY TELEPHONE COMPANY
273	381622	GRIGGS COUNTY TEL. CO. (MOORE&LIBERTY)
274	381638	MIDSTATE COMMUNICATIONS INC.
275	391640	GOLDEN WEST TELECOM COOP (ARMOUR)
276	391649	BERESFORD MUNICIPAL TEL. CO.
277	391650	CITY OF BROOKINGS MUNICIPAL TEL. DEPT.
278	391653	CITY OF FAITH MUNICIPAL TEL CO
279	391660	FORT RANDALL TEL. CO. DBA MT. RUSHMORE TEL CO
280	391664	JAMES VALLEY COOPERATIVE TELEPHONE COMPANY
281	391671	WEST RIVER TELECOMMUNICATIONS COOP.(MOBRIDGE)
282	391677	GOLDEN WEST TELECOM COOP (SIOUX VALLEY)
283	391682	TRIOTEL COMMUNICATIONS, INC. (TRI-COUNTY)
284	401710	MAGAZINE TELEPHONE COMPANY
285	401712	MOUNTAIN VIEW TELEPHONE COMPANY
286	401722	E. RITTER TELEPHONE COMPANY
287	421893	CHOCTAW TELEPHONE COMPANY
288	421900	KLM TEL. CO.
289	421932	LATHROP TELEPHONE COMPANY
290	421936	PEACE VALLEY TELEPHONE CO.
291	421942	ROCK PORT TEL. CO.
292	431968	BEGGS TELEPHONE COMPANY
293	442043	NORTH TEXAS TELEPHONE COMPANY
294	442107	LIVINGSTON TELEPHONE COMPANY

Appendix A
2016 Average Schedule USF Study
Study Area Code / Study Area Name

Obs	Study Area Code	Study Area Name
295	462198	PINE DRIVE TEL. CO.
296	462206	STONEHAM COOPERATIVE TEL. CO.
297	462210	WILLARD TEL. CO.
298	472227	MUD LAKE TELEPHONE COOPERATIVE ASSN. INC.
299	482252	RONAN TEL. CO.
300	502279	GUNNISON TEL. CO.
301	502282	MANTI TELEPHONE COMPANY
302	502283	SKYLINE TELECOM
303	532386	MT. ANGEL TELEPHONE COMPANY
304	532396	ST. PAUL COOP. TEL. ASSN.
305	613005	CIRCLE TELEPHONE & ELECTRIC, LLC
306	613026	NORTH COUNTRY TELEPHONE COMPANY

Appendix B
2016 Average Schedule USF Study
Sample Average Schedule Study Areas
Data Underlying Cost per Loop Formula Development

	Study Area Code	Actual USF Loop Count	Exchange Count	Sample Weight	Actual Cost per Loop
1	100005	397	1	1.5000	475.87
2	100015	4688	7	1.0000	503.53
3	100020	2710	3	1.0000	442.48
4	100022	3286	3	1.0000	430.22
5	120042	26	1	1.5000	1181.48
6	140053	790	1	1.0000	455.24
7	140064	2878	6	2.5000	289.49
8	150076	776	1	1.0000	404.21
9	150125	4858	2	1.0000	542.90
10	170145	1525	1	1.0000	547.88
11	170156	3150	1	1.0000	523.33
12	170171	1108	1	2.0000	309.08
13	170191	8368	8	1.0000	414.04
14	170195	426	1	1.5000	437.99
15	170196	4725	4	1.0000	530.69
16	170200	1036	1	1.0000	670.96
17	170205	1781	2	1.0000	230.71
18	170210	1040	1	1.0000	1197.30
19	190238	1381	5	1.0000	955.23
20	190243	2277	2	1.0000	464.01
21	190250	19864	9	1.0000	322.59
22	220324	1434	1	1.0000	359.90
23	220380	3806	6	1.0000	897.87
24	220389	3481	3	1.0000	966.08
25	230491	51113	3	1.0000	702.10
26	230494	1114	1	2.5000	573.70
27	230496	10776	8	1.0000	672.32
28	230500	671	1	2.0000	795.97
29	230503	10547	6	1.0000	713.29
30	240535	471	1	2.0000	955.14
31	240546	12418	7	1.0000	470.68
32	250283	6632	3	1.0000	491.06
33	250311	1380	4	1.0000	939.77
34	250312	4909	1	1.0000	395.09
35	260398	15749	8	1.0000	410.38
36	260419	5572	6	1.0000	817.51
37	270428	962	1	1.0000	1202.07
38	290553	26384	17	1.0000	742.89
39	290554	9310	5	1.0000	745.64
40	290565	16864	10	1.0000	822.23
41	290570	4009	5	1.0000	685.02
42	290598	1006	4	1.0000	1400.69
43	300588	755	1	2.5000	695.21
44	300591	504	1	2.6899	585.03
45	300604	867	1	1.0000	739.41
46	300609	1537	1	1.0000	797.23

Appendix B
2016 Average Schedule USF Study
Sample Average Schedule Study Areas
Data Underlying Cost per Loop Formula Development

	Study Area Code	Actual USF Loop Count	Exchange Count	Sample Weight	Actual Cost per Loop
47	300625	1311	1	1.0000	651.53
48	300634	2575	1	1.0000	465.65
49	300639	907	1	2.7840	579.80
50	300651	262	1	1.5000	777.84
51	300654	521	1	2.0000	1100.14
52	300656	801	1	1.0000	1121.62
53	300659	5701	2	1.0000	565.57
54	300663	211	1	1.5000	623.77
55	310675	3650	4	1.0000	530.26
56	310676	5440	4	1.0000	412.89
57	310688	905	1	1.0000	339.90
58	310703	1175	4	1.0000	1167.22
59	320751	1621	2	1.0000	748.64
60	320771	357	1	1.5000	1686.75
61	320778	1446	1	1.0000	606.08
62	320792	1810	1	1.0000	1022.31
63	320809	1113	3	1.0000	567.11
64	320816	243	1	1.5000	757.55
65	320827	922	1	2.5000	694.74
66	330843	3996	3	1.0000	846.92
67	330846	3053	2	1.0000	946.58
68	330848	117	2	1.0000	1787.59
69	330865	1245	1	1.0000	400.57
70	330875	954	1	1.0000	550.75
71	330879	2074	3	1.0000	604.38
72	330880	4721	4	1.0000	524.68
73	330889	1260	2	2.0000	895.68
74	330896	1202	2	2.5000	628.60
75	330925	1448	1	1.0000	1318.99
76	330938	4073	4	1.0000	635.97
77	330946	575	2	1.5000	1079.72
78	340976	2883	13	1.0000	1478.22
79	340993	325	1	1.5000	802.46
80	341017	880	1	2.8358	666.00
81	341021	84	1	1.5000	1175.48
82	341024	1507	7	1.0000	1290.43
83	341041	75	1	1.0000	992.09
84	341046	139	1	1.5000	1020.75
85	341050	1748	1	1.0000	758.45
86	341053	2493	2	1.0000	742.04
87	341086	303	1	1.5000	1165.31
88	341087	503	1	1.0000	920.79
89	341092	60	1	1.5000	1522.31
90	350739	177	1	1.0000	740.18
91	351097	265	1	1.5000	578.44
92	351098	259	1	1.5000	354.39

Appendix B
2016 Average Schedule USF Study
Sample Average Schedule Study Areas
Data Underlying Cost per Loop Formula Development

	Study Area Code	Actual USF Loop Count	Exchange Count	Sample Weight	Actual Cost per Loop
93	351107	239	1	1.0000	1417.83
94	351108	87	1	1.5000	942.64
95	351112	824	3	1.5000	1353.60
96	351113	1196	1	3.0506	468.02
97	351115	1656	4	1.0000	924.81
98	351118	1430	2	2.5000	1001.42
99	351119	254	1	1.5000	825.95
100	351121	92	1	1.0000	1054.64
101	351125	3408	3	1.0000	490.00
102	351133	689	4	1.0000	1065.66
103	351136	382	1	4.0873	571.00
104	351137	448	2	1.0000	1160.17
105	351139	1147	4	1.0000	772.30
106	351141	628	1	2.9969	1439.91
107	351146	239	1	1.5000	1398.04
108	351147	650	1	1.0000	2074.47
109	351150	356	1	1.5000	1556.39
110	351153	540	1	3.4400	614.41
111	351162	962	2	2.5000	738.21
112	351173	1581	4	1.0000	745.80
113	351175	302	1	1.5000	1038.58
114	351176	333	1	1.0000	1098.09
115	351179	257	1	1.5000	1217.07
116	351189	677	2	1.0000	342.45
117	351191	410	1	1.5000	1028.81
118	351202	519	1	1.0000	933.43
119	351217	713	3	1.0000	1272.59
120	351228	225	1	1.5000	609.32
121	351230	1448	3	2.0000	912.19
122	351239	383	2	1.5000	937.66
123	351241	567	1	2.5478	804.25
124	351242	466	1	2.5000	1166.34
125	351247	694	4	1.5000	907.93
126	351257	636	1	2.5000	513.36
127	351259	1621	7	1.0000	857.60
128	351260	2781	3	2.0000	800.69
129	351261	967	4	1.0000	860.11
130	351265	151	1	1.0000	975.55
131	351266	210	1	1.0000	1939.97
132	351269	432	1	1.5000	1131.51
133	351270	234	1	1.0000	1103.63
134	351275	142	1	1.5000	1307.24
135	351276	917	2	1.5000	924.56
136	351280	306	1	1.0000	1040.38
137	351283	311	1	1.0000	1156.64
138	351285	760	2	1.0000	905.27

Appendix B
2016 Average Schedule USF Study
Sample Average Schedule Study Areas
Data Underlying Cost per Loop Formula Development

	Study Area Code	Actual USF Loop Count	Exchange Count	Sample Weight	Actual Cost per Loop
139	351291	1230	4	1.0000	1092.85
140	351292	182	1	1.0000	738.40
141	351293	860	2	1.0000	826.97
142	351301	448	3	1.5000	1107.88
143	351302	993	1	1.0000	699.56
144	351306	639	1	2.9088	1028.81
145	351307	140	1	1.0000	1250.70
146	351308	360	1	1.5000	859.39
147	351309	246	1	1.0000	1994.22
148	351319	1966	6	1.5000	730.88
149	351320	487	1	1.5000	1115.74
150	351322	377	1	1.5000	688.88
151	351331	3464	6	1.0000	944.40
152	351334	2847	8	1.0000	790.04
153	351335	270	1	1.5000	1775.59
154	351336	1117	1	2.5000	591.93
155	351342	151	1	1.0000	1931.52
156	351344	419	2	1.5000	1256.42
157	361348	68	1	1.0000	961.68
158	361353	1046	1	3.7719	497.15
159	361356	3448	5	2.0000	697.68
160	361365	209	1	1.5000	823.41
161	361372	139	1	1.5000	492.05
162	361390	1991	7	1.0000	1086.84
163	361396	2516	4	2.0000	1023.87
164	361401	1697	10	1.0000	1447.42
165	361403	746	1	1.0000	692.92
166	361404	806	2	1.5000	503.85
167	361409	6683	1	1.0000	489.47
168	361424	674	2	1.5000	642.09
169	361430	6682	8	1.0000	621.96
170	361439	560	3	1.0000	1029.26
171	361440	1164	4	1.0000	760.23
172	361443	7477	9	1.0000	550.01
173	361472	4254	10	1.0000	439.02
174	361475	2992	9	1.0000	829.72
175	361479	8837	3	1.0000	708.59
176	361499	1574	1	1.0000	849.50
177	361500	30	1	1.0000	1650.51
178	361505	5067	18	1.0000	1161.12
179	361512	119	1	1.0000	1050.57
180	361515	1395	1	1.0000	579.80
181	371530	1025	5	1.0000	1291.69
182	371555	4396	9	1.0000	803.84
183	371563	692	2	1.5000	824.78
184	371581	1322	2	2.0000	735.28

Appendix B
2016 Average Schedule USF Study
Sample Average Schedule Study Areas
Data Underlying Cost per Loop Formula Development

	Study Area Code	Actual USF Loop Count	Exchange Count	Sample Weight	Actual Cost per Loop
185	381509	249	2	1.0000	827.40
186	381601	42	1	1.5000	1170.86
187	381614	1722	6	1.0000	710.33
188	381615	1474	4	1.5000	1034.26
189	381622	752	2	1.0000	908.17
190	381625	6068	16	1.0000	1018.65
191	381638	959	3	1.0000	1175.85
192	383303	27871	26	1.0000	866.57
193	391640	1298	3	1.0000	758.82
194	391649	1252	1	1.0000	492.76
195	391664	2815	14	1.0000	1205.86
196	391671	1819	1	1.0000	681.54
197	391682	367	2	1.5000	691.42
198	391684	1291	2	2.0000	1634.69
199	401710	715	2	1.0000	600.69
200	401712	5169	8	1.0000	347.53
201	401722	2494	8	1.0000	924.02
202	421893	325	1	1.0000	1340.91
203	421900	989	4	1.5000	517.05
204	421932	1145	1	2.5000	802.12
205	421942	1327	3	1.0000	649.10
206	442043	407	2	1.5000	1054.82
207	442107	5241	1	2.0000	553.22
208	462210	54	1	1.0000	1596.81
209	472227	1046	5	1.0000	699.21
210	502279	1179	1	1.0000	619.29
211	502282	2344	2	1.0000	724.49
212	502283	1987	5	1.0000	762.64
213	532386	1377	1	1.0000	508.18
214	532396	539	1	1.0000	768.81
215	613005	59	1	1.5000	618.56
216	613026	149	1	1.5000	539.85

Appendix C
2016 Average Schedule USF Study
Comparison of Current and Proposed Monthly HCL Support Payments

Obs	Study Area Code	Loops	Exch	Loops per Exch	Current Payments	Proposed Cost per Loop *	Proposed Payment (Fund Cap Appl.)	Per Loop Payment Difference	Payment Percent Difference
1	100005	356	1	356	$2,480	$958.07	$3,401	$3.24	37.14%
2	100019	3,296	6	549	$5,736	$857.52	$16,624	$3.53	189.82%
3	100020	2,431	3	810	$0	$721.52	$0	$0.00	0.00%
4	100022	3,217	3	1,072	$0	$614.23	$0	$0.00	0.00%
5	120042	19	1	19	$188	$1,133.67	$352	$4.06	87.23%
6	120043	1,416	1	1,416	$0	$574.65	$0	$0.00	0.00%
7	140053	830	1	830	$0	$711.10	$0	$0.00	0.00%
8	140064	2,968	6	495	$12,048	$885.65	$18,714	$2.38	55.33%
9	150076	810	1	810	$0	$721.52	$0	$0.00	0.00%
10	150125	4,797	2	2,399	$0	$507.43	$0	$0.00	0.00%
11	170156	3,241	1	3,241	$0	$507.43	$0	$0.00	0.00%
12	170171	1,000	1	1,000	$0	$622.52	$0	$0.00	0.00%
13	170175	2,852	1	2,852	$0	$507.43	$0	$0.00	0.00%
14	170191	8,359	8	1,045	$0	$617.34	$0	$0.00	0.00%
15	170195	421	1	421	$2,378	$924.21	$3,383	$2.57	42.26%
16	170196	4,592	4	1,148	$0	$605.49	$0	$0.00	0.00%
17	170197	994	1	994	$0	$625.65	$0	$0.00	0.00%
18	170200	1,012	1	1,012	$0	$621.14	$0	$0.00	0.00%
19	170205	1,726	2	863	$0	$693.90	$0	$0.00	0.00%
20	170210	1,077	1	1,077	$0	$613.66	$0	$0.00	0.00%
21	170277	32	1	32	$474	$1,126.89	$582	$4.25	22.78%
22	190220	158	1	158	$1,806	$1,061.24	$2,338	$3.92	29.46%
23	190225	6,670	5	1,334	$0	$584.08	$0	$0.00	0.00%
24	190226	17,398	4	4,350	$0	$507.43	$0	$0.00	0.00%
25	190237	1,278	3	426	$7,214	$921.60	$10,119	$2.29	40.27%
26	190238	1,491	5	298	$12,300	$988.30	$16,435	$2.95	33.62%
27	190239	667	1	667	$540	$796.03	$1,525	$1.48	182.41%
28	190243	2,347	2	1,174	$0	$602.49	$0	$0.00	0.00%
29	190250	20,382	9	2,265	$0	$507.43	$0	$0.00	0.00%
30	197251	695	1	695	$0	$781.44	$1,134	$1.63	100.00%
31	200258	827	1	827	$0	$712.66	$0	$0.00	0.00%
32	220324	1,372	1	1,372	$0	$579.71	$0	$0.00	0.00%
33	220380	4,011	6	669	$1,601	$794.99	$8,983	$1.85	461.09%
34	220389	3,363	3	1,121	$0	$608.59	$0	$0.00	0.00%
35	230478	1,294	1	1,294	$0	$588.69	$0	$0.00	0.00%
36	230491	44,831	3	14,944	$0	$507.43	$0	$0.00	0.00%
37	230494	1,014	1	1,014	$0	$620.91	$0	$0.00	0.00%
38	230496	11,289	8	1,411	$0	$575.22	$0	$0.00	0.00%
39	230497	2,024	2	1,012	$0	$621.14	$0	$0.00	0.00%
40	230500	646	1	646	$412	$806.98	$1,794	$2.17	335.44%
41	230501	27,591	12	2,299	$0	$507.43	$0	$0.00	0.00%
42	230503	11,135	6	1,856	$0	$524.01	$0	$0.00	0.00%
43	230505	2,393	3	798	$0	$727.78	$0	$0.00	0.00%
44	230511	17,647	10	1,765	$0	$534.47	$0	$0.00	0.00%
45	240515	2,974	1	2,974	$0	$507.43	$0	$0.00	0.00%
46	240516	11,091	3	3,697	$0	$507.43	$0	$0.00	0.00%
47	240532	289	1	289	$2,469	$992.99	$3,256	$3.25	31.88%
48	240535	463	1	463	$2,143	$902.32	$3,266	$2.67	52.40%
49	240541	1,654	1	1,654	$0	$547.25	$0	$0.00	0.00%
50	240546	13,605	7	1,944	$0	$513.88	$0	$0.00	0.00%
51	250283	6,087	3	2,029	$0	$507.43	$0	$0.00	0.00%
52	250285	664	1	664	$373	$797.60	$1,565	$1.81	319.57%
53	250311	1,386	4	347	$10,050	$962.76	$13,532	$2.69	34.65%

Appendix C
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Comparison of Current and Proposed Monthly HCL Support Payments

Obs	Study Area Code	Loops	Exch	Loops per Exch	Current Payments	Proposed Cost per Loop *	Proposed Payment (Fund Cap Appl.)	Per Loop Payment Difference	Payment Percent Difference
54	250312	4,704	1	4,704	$0	$507.43	$0	$0.00	0.00%
55	260398	15,924	8	1,991	$0	$508.47	$0	$0.00	0.00%
56	260408	4,826	3	1,609	$0	$552.43	$0	$0.00	0.00%
57	260419	5,684	6	947	$0	$650.14	$0	$0.00	0.00%
58	270428	964	1	964	$0	$641.28	$0	$0.00	0.00%
59	280451	1,204	1	1,204	$0	$599.04	$0	$0.00	0.00%
60	280467	416	1	416	$31	$926.81	$3,391	$8.11	10838.71%
61	287449	441	1	441	$2,257	$913.79	$3,337	$2.72	47.85%
62	290553	27,367	17	1,610	$0	$552.31	$0	$0.00	0.00%
63	290554	10,032	5	2,006	$0	$507.43	$0	$0.00	0.00%
64	290565	17,395	10	1,740	$0	$537.35	$0	$0.00	0.00%
65	290570	4,051	5	810	$0	$721.52	$0	$0.00	0.00%
66	290598	1,017	4	254	$9,397	$1,011.22	$12,416	$3.31	32.13%
67	300585	422	1	422	$2,358	$923.69	$3,381	$2.66	43.38%
68	300588	728	1	728	$0	$764.25	$627	$0.86	100.00%
69	300589	473	1	473	$2,069	$897.11	$3,226	$2.70	55.92%
70	300591	486	1	486	$2,039	$890.34	$3,167	$2.49	55.32%
71	300609	1,509	1	1,509	$0	$563.94	$0	$0.00	0.00%
72	300614	662	1	662	$412	$798.64	$1,591	$1.79	286.17%
73	300619	1,027	1	1,027	$0	$619.41	$0	$0.00	0.00%
74	300625	1,365	1	1,365	$0	$580.52	$0	$0.00	0.00%
75	300633	486	1	486	$2,115	$890.34	$3,167	$2.24	49.74%
76	300634	2,632	1	2,632	$0	$507.43	$0	$0.00	0.00%
77	300639	921	1	921	$0	$663.69	$0	$0.00	0.00%
78	300645	892	1	892	$0	$678.79	$0	$0.00	0.00%
79	300650	1,274	2	637	$1,774	$811.66	$3,806	$1.60	114.54%
80	300651	271	1	271	$2,393	$1,002.37	$3,184	$3.11	33.05%
81	300654	564	1	564	$1,737	$849.70	$2,647	$1.54	52.39%
82	300656	801	1	801	$0	$726.21	$0	$0.00	0.00%
83	300659	5,883	2	2,942	$0	$507.43	$0	$0.00	0.00%
84	300662	471	1	471	$2,087	$898.15	$3,234	$2.68	54.96%
85	300663	229	1	229	$2,168	$1,024.24	$2,950	$3.16	36.07%
86	300664	857	1	857	$0	$697.03	$0	$0.00	0.00%
87	310675	3,639	4	910	$0	$669.41	$0	$0.00	0.00%
88	310676	5,490	4	1,373	$0	$579.60	$0	$0.00	0.00%
89	310678	933	1	933	$0	$657.44	$0	$0.00	0.00%
90	310688	679	1	679	$0	$789.78	$1,362	$2.01	100.00%
91	310694	486	1	486	$2,104	$890.34	$3,167	$2.27	50.52%
92	310703	925	4	293	$8,053	$990.90	$10,320	$3.26	28.15%
93	310725	757	1	757	$0	$749.13	$139	$0.18	100.00%
94	310735	680	1	680	$0	$789.26	$1,348	$1.98	100.00%
95	320751	1,637	2	819	$0	$716.83	$0	$0.00	0.00%
96	320756	653	1	653	$267	$803.33	$1,707	$2.23	539.33%
97	320771	343	1	343	$2,511	$964.85	$3,381	$2.80	34.65%
98	320778	1,504	1	1,504	$0	$564.52	$0	$0.00	0.00%
99	320792	1,829	1	1,832	$0	$526.77	$0	$0.00	0.00%
100	320809	1,093	3	364	$7,493	$953.90	$10,237	$2.73	36.62%
101	320816	236	1	236	$2,357	$1,020.60	$2,996	$3.83	27.11%
102	320826	465	1	465	$2,014	$901.28	$3,258	$3.07	61.77%
103	320827	885	1	885	$0	$682.44	$0	$0.00	0.00%
104	320837	667	1	667	$307	$796.03	$1,525	$1.84	396.74%
105	320839	566	1	566	$1,312	$848.66	$2,630	$2.45	100.46%
106	330842	4,676	3	1,559	$0	$558.18	$0	$0.00	0.00%

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107	330843	4,284	3	1,428	$0	$573.26	$0	$0.00	0.00%
108	330846	3,131	2	1,566	$0	$557.38	$0	$0.00	0.00%
109	330847	587	1	587	$1,427	$837.71	$2,439	$1.72	70.92%
110	330848	108	2	54	$1,611	$1,115.43	$1,901	$4.29	18.00%
111	330865	1,277	1	1,277	$0	$590.65	$0	$0.00	0.00%
112	330868	1,978	3	659	$1,467	$800.20	$4,892	$1.74	233.47%
113	330872	965	1	965	$0	$640.76	$0	$0.00	0.00%
114	330875	1,016	1	1,016	$0	$620.68	$0	$0.00	0.00%
115	330879	2,524	3	841	$0	$705.37	$0	$0.00	0.00%
116	330880	4,868	4	1,217	$0	$597.55	$0	$0.00	0.00%
117	330889	1,309	2	655	$927	$802.29	$3,360	$1.88	262.46%
118	330896	1,185	2	593	$1,866	$834.59	$4,758	$2.54	154.98%
119	330905	1,670	2	835	$0	$708.50	$0	$0.00	0.00%
120	330914	3,682	5	736	$0	$760.08	$2,482	$0.67	100.00%
121	330925	1,410	1	1,410	$0	$575.34	$0	$0.00	0.00%
122	330938	3,911	4	978	$0	$633.99	$0	$0.00	0.00%
123	330946	569	2	285	$4,918	$995.07	$6,471	$3.30	31.58%
124	330951	2,525	1	2,525	$0	$507.43	$0	$0.00	0.00%
125	340983	1,055	2	652	$1,269	$803.85	$2,782	$1.47	119.23%
126	340990	238	1	238	$2,223	$1,019.56	$3,008	$3.14	35.31%
127	340993	306	1	306	$2,498	$984.13	$3,307	$3.19	32.39%
128	341016	6,821	2	3,411	$0	$507.43	$0	$0.00	0.00%
129	341017	889	1	889	$0	$680.36	$0	$0.00	0.00%
130	341021	69	1	69	$1,030	$1,107.61	$1,187	$4.33	15.24%
131	341024	1,633	7	233	$15,480	$1,022.16	$20,861	$3.21	34.76%
132	341029	906	2	453	$4,576	$907.53	$6,602	$2.30	44.27%
133	341041	67	1	67	$974	$1,108.65	$1,156	$4.27	18.69%
134	341046	124	1	124	$1,557	$1,078.96	$1,949	$4.10	25.18%
135	341050	1,719	1	1,719	$0	$539.77	$0	$0.00	0.00%
136	341053	2,480	2	1,240	$0	$594.91	$0	$0.00	0.00%
137	341062	467	1	467	$2,340	$900.24	$3,250	$1.71	38.89%
138	341075	386	1	386	$2,492	$942.45	$3,417	$2.36	37.12%
139	341086	288	1	288	$2,463	$993.51	$3,252	$3.22	32.03%
140	341087	515	1	515	$1,962	$875.23	$3,007	$2.06	53.26%
141	341092	57	1	57	$812	$1,113.86	$999	$4.21	23.03%
142	351097	262	1	262	$2,380	$1,007.06	$3,142	$3.27	32.02%
143	351098	265	1	265	$2,278	$1,005.49	$3,157	$2.65	38.59%
144	351101	936	1	936	$0	$655.87	$0	$0.00	0.00%
145	351107	254	1	254	$2,307	$1,011.22	$3,101	$3.09	34.42%
146	351108	89	1	89	$1,127	$1,097.19	$1,483	$4.00	31.59%
147	351112	844	3	281	$7,232	$997.15	$9,690	$2.96	33.99%
148	351113	1,222	1	1,222	$0	$596.98	$0	$0.00	0.00%
149	351114	288	1	288	$2,432	$993.51	$3,252	$2.93	33.72%
150	351115	1,101	4	407	$6,513	$931.50	$9,206	$2.87	41.35%
151	351118	1,484	2	742	$0	$756.95	$792	$0.53	100.00%
152	351119	240	1	240	$2,315	$1,018.52	$3,021	$3.51	30.50%
153	351121	96	1	96	$1,241	$1,093.54	$1,581	$4.06	27.40%
154	351125	3,389	3	1,130	$0	$607.56	$0	$0.00	0.00%
155	351133	685	4	171	$7,403	$1,054.47	$9,896	$3.72	33.68%
156	351136	363	1	363	$2,492	$954.42	$3,408	$2.90	36.76%
157	351137	460	2	230	$4,484	$1,023.72	$5,913	$3.43	31.87%
158	351139	1,195	4	299	$9,852	$987.77	$13,139	$2.96	33.36%
159	351141	666	1	666	$333	$796.55	$1,538	$1.82	361.86%

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160	351146	223	1	223	$2,247	$1,027.37	$2,909	$3.64	29.46%
161	351147	671	1	671	$307	$793.95	$1,471	$1.74	379.15%
162	351149	236	1	236	$2,223	$1,020.60	$2,996	$3.19	34.77%
163	351150	349	1	349	$2,486	$961.72	$3,391	$3.33	36.40%
164	351153	582	1	582	$1,640	$840.32	$2,487	$1.36	51.65%
165	351157	635	2	318	$5,012	$977.87	$6,657	$3.23	32.82%
166	351162	1,006	2	503	$3,976	$881.48	$6,155	$2.26	54.80%
167	351166	620	1	620	$1,054	$820.52	$2,098	$1.69	99.05%
168	351168	1,561	7	223	$15,259	$1,027.37	$20,362	$3.36	33.44%
169	351171	1,849	1	1,849	$0	$524.81	$0	$0.00	0.00%
170	351173	1,606	4	402	$9,769	$934.11	$13,617	$2.55	39.39%
171	351175	271	1	271	$2,393	$1,002.37	$3,184	$3.11	33.05%
172	351176	322	1	322	$2,511	$975.79	$3,341	$3.28	33.05%
173	351179	268	1	268	$2,342	$1,003.93	$3,171	$2.89	35.40%
174	351188	350	1	350	$2,502	$961.20	$3,393	$3.00	35.61%
175	351189	732	2	366	$5,020	$952.86	$6,822	$2.35	35.90%
176	351191	479	1	479	$2,354	$893.98	$3,199	$1.35	35.90%
177	351199	354	1	354	$2,509	$959.11	$3,398	$2.71	35.43%
178	351202	481	1	524	$1,692	$870.54	$2,707	$2.19	59.99%
179	351203	581	1	581	$1,436	$840.84	$2,496	$1.84	73.82%
180	351205	929	2	465	$4,226	$901.28	$6,509	$2.72	54.02%
181	351212	2,601	1	2,601	$0	$507.43	$0	$0.00	0.00%
182	351213	215	1	215	$1,221	$1,031.54	$2,851	$0.80	133.50%
183	351222	578	1	578	$1,455	$842.40	$2,523	$1.87	73.40%
184	351228	223	1	223	$2,199	$1,027.37	$2,909	$3.44	32.29%
185	351232	491	1	491	$2,110	$887.73	$3,142	$2.14	48.91%
186	351235	499	1	499	$2,020	$883.56	$3,100	$2.25	53.47%
187	351238	219	1	219	$2,189	$1,029.45	$2,880	$3.51	31.57%
188	351239	375	2	188	$4,024	$1,045.61	$5,246	$3.72	30.37%
189	351241	580	1	580	$1,380	$841.36	$2,505	$1.98	81.52%
190	351242	461	1	461	$2,154	$903.36	$3,273	$2.68	51.95%
191	351246	594	2	297	$4,906	$988.82	$6,563	$2.87	33.77%
192	351247	722	4	181	$7,649	$1,049.26	$10,236	$3.61	33.82%
193	351250	368	1	368	$2,469	$951.82	$3,412	$3.08	38.19%
194	351257	661	1	661	$438	$799.16	$1,604	$1.78	266.21%
195	351260	2,783	3	928	$0	$660.04	$0	$0.00	0.00%
196	351261	989	4	247	$9,213	$1,014.87	$12,261	$3.26	33.08%
197	351264	505	2	253	$4,573	$1,011.75	$6,179	$3.02	35.12%
198	351265	153	1	153	$1,695	$1,063.85	$2,285	$3.71	34.81%
199	351266	210	1	210	$2,173	$1,034.14	$2,813	$3.69	29.45%
200	351269	509	1	509	$2,185	$878.36	$3,043	$1.44	39.27%
201	351270	238	1	238	$2,233	$1,019.56	$3,008	$3.18	34.71%
202	351273	586	1	586	$1,150	$838.23	$2,449	$2.31	112.96%
203	351275	145	1	145	$1,672	$1,068.02	$2,196	$3.85	31.34%
204	351278	624	1	624	$451	$818.43	$2,053	$2.62	355.21%
205	351282	988	4	247	$9,206	$1,014.87	$12,249	$3.24	33.05%
206	351283	307	1	307	$2,492	$983.61	$3,309	$3.06	32.78%
207	351285	790	2	395	$4,888	$937.76	$6,827	$2.67	39.67%
208	351291	1,239	4	310	$9,943	$982.04	$13,256	$2.86	33.32%
209	351292	182	1	182	$1,905	$1,048.74	$2,575	$3.57	35.17%
210	351293	863	2	432	$4,744	$918.48	$6,712	$2.33	41.48%
211	351301	486	3	162	$5,189	$1,059.16	$7,139	$3.58	37.58%
212	351302	1,049	1	1,049	$0	$616.88	$0	$0.00	0.00%

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213	351306	662	1	662	$590	$798.64	$1,591	$1.51	169.66%
214	351307	138	1	138	$1,680	$1,071.66	$2,116	$4.06	25.95%
215	351308	369	1	369	$2,507	$951.30	$3,413	$2.42	36.14%
216	351309	266	1	266	$2,342	$1,004.97	$3,161	$2.94	34.97%
217	351310	431	1	431	$2,378	$919.00	$3,362	$2.33	41.38%
218	351319	2,028	6	338	$15,039	$967.45	$20,227	$2.76	34.50%
219	351320	492	1	492	$2,210	$887.21	$3,137	$1.73	41.95%
220	351322	399	1	399	$2,454	$935.67	$3,411	$2.52	39.00%
221	351331	3,391	6	565	$7,757	$849.18	$15,835	$2.52	104.14%
222	351334	2,981	8	373	$19,967	$949.22	$27,294	$2.59	36.70%
223	351335	277	1	277	$2,419	$999.24	$3,210	$3.13	32.70%
224	351336	1,065	1	1,065	$0	$615.04	$0	$0.00	0.00%
225	351342	147	1	147	$1,672	$1,066.97	$2,219	$3.80	32.72%
226	351344	415	2	208	$5,978	$1,035.19	$5,581	$3.12	-6.64%
227	351424	875	3	292	$7,289	$991.42	$9,786	$2.79	34.26%
228	361348	70	1	70	$883	$1,107.09	$1,202	$3.99	36.13%
229	361353	1,090	1	1,090	$0	$612.16	$0	$0.00	0.00%
230	361356	3,969	5	794	$0	$729.86	$0	$0.00	0.00%
231	361365	216	1	216	$2,163	$1,031.02	$2,858	$3.49	32.13%
232	361372	133	1	133	$1,583	$1,074.27	$2,058	$3.92	30.01%
233	361390	1,888	7	270	$16,675	$1,002.89	$22,236	$3.08	33.35%
234	361396	2,636	4	659	$2,407	$800.20	$6,519	$1.56	170.84%
235	361401	1,699	10	170	$18,924	$1,054.99	$24,590	$3.85	29.94%
236	361403	700	1	700	$117	$778.84	$1,061	$1.35	806.84%
237	361404	834	2	417	$4,845	$926.29	$6,779	$2.36	39.92%
238	361408	1,288	3	429	$6,967	$920.04	$10,108	$2.70	45.08%
239	361409	6,665	1	6,665	$0	$507.43	$0	$0.00	0.00%
240	361413	1,229	4	307	$9,975	$983.61	$13,248	$3.16	32.81%
241	361423	699	1	699	$158	$779.36	$1,076	$1.31	581.01%
242	361424	692	2	346	$5,009	$963.28	$6,772	$2.45	35.20%
243	361430	6,743	8	843	$0	$704.33	$0	$0.00	0.00%
244	361431	1,979	4	495	$8,252	$885.65	$12,478	$2.20	51.21%
245	361439	535	3	178	$5,910	$1,050.82	$7,628	$3.85	29.07%
246	361440	1,162	4	291	$9,897	$991.94	$13,027	$3.26	31.63%
247	361443	8,129	9	903	$0	$673.06	$0	$0.00	0.00%
248	361450	3,158	6	526	$10,972	$869.50	$17,625	$2.18	60.64%
249	361472	4,369	10	437	$23,060	$915.87	$33,469	$2.60	45.14%
250	361474	479	1	479	$2,200	$893.98	$3,199	$2.08	45.41%
251	361475	3,044	9	338	$22,549	$967.45	$30,360	$2.48	34.64%
252	361476	324	1	324	$2,510	$974.75	$3,344	$3.07	33.23%
253	361479	8,550	3	2,850	$0	$507.43	$0	$0.00	0.00%
254	361487	952	1	952	$0	$647.53	$0	$0.00	0.00%
255	361495	536	2	268	$4,713	$1,003.93	$6,342	$2.97	34.56%
256	361499	1,560	1	1,560	$0	$558.07	$0	$0.00	0.00%
257	361500	40	1	40	$461	$1,122.72	$719	$4.01	55.97%
258	361502	1,485	2	743	$0	$756.43	$758	$0.51	100.00%
259	361505	5,566	18	309	$44,437	$982.56	$59,698	$2.69	34.34%
260	361508	634	1	634	$565	$813.22	$1,938	$2.21	243.01%
261	361512	132	1	132	$1,488	$1,074.79	$2,046	$3.69	37.50%
262	361515	1,408	1	1,408	$0	$575.57	$0	$0.00	0.00%
263	361654	1,361	3	454	$6,943	$907.01	$9,885	$2.16	42.37%
264	371530	1,084	5	217	$10,770	$1,030.50	$14,316	$3.42	32.92%
265	371555	4,787	9	532	$16,775	$866.37	$26,044	$1.94	55.25%

Appendix C
2016 Average Schedule USF Study
Comparison of Current and Proposed Monthly HCL Support Payments

Obs	Study Area Code	Loops	Exch	Loops per Exch	Current Payments	Proposed Cost per Loop *	Proposed Payment (Fund Cap Appl.)	Per Loop Payment Difference	Payment Percent Difference
266	371563	686	2	343	$5,020	$964.85	$6,762	$2.87	34.70%
267	371581	1,277	2	639	$1,253	$810.61	$3,755	$1.99	199.68%
268	371590	65	1	65	$871	$1,109.70	$1,125	$4.11	29.16%
269	381509	264	2	132	$2,981	$1,074.79	$4,091	$3.71	37.24%
270	381601	42	1	42	$616	$1,121.68	$753	$4.24	22.24%
271	381614	1,189	5	238	$11,390	$1,019.56	$15,029	$3.38	31.95%
272	381615	1,536	4	384	$9,970	$943.49	$13,669	$2.35	37.10%
273	381622	833	2	417	$4,976	$926.29	$6,771	$1.66	36.07%
274	381638	999	3	333	$7,512	$970.06	$10,081	$2.70	34.20%
275	391640	1,351	3	450	$7,073	$909.10	$9,939	$2.01	40.52%
276	391649	1,242	1	1,242	$0	$594.68	$0	$0.00	0.00%
277	391650	9,318	1	9,318	$0	$507.43	$0	$0.00	0.00%
278	391653	289	1	289	$2,421	$992.99	$3,256	$2.83	34.49%
279	391660	4,452	8	557	$11,563	$853.35	$21,622	$2.38	86.99%
280	391664	2,823	14	202	$29,441	$1,038.31	$38,422	$3.65	30.51%
281	391671	1,876	1	1,876	$0	$521.70	$0	$0.00	0.00%
282	391677	3,821	5	764	$0	$745.48	$74	$0.02	100.00%
283	391682	379	2	190	$3,936	$1,044.57	$5,281	$3.55	34.17%
284	401710	714	2	357	$5,013	$957.55	$6,804	$2.72	35.73%
285	401712	5,569	8	696	$824	$780.92	$8,958	$1.46	987.14%
286	401722	2,526	8	316	$19,988	$978.92	$26,617	$2.98	33.16%
287	421893	313	1	313	$2,509	$980.48	$3,323	$3.32	32.44%
288	421900	965	4	241	$9,330	$1,018.00	$12,120	$3.58	29.90%
289	421932	1,173	1	1,173	$0	$602.61	$0	$0.00	0.00%
290	421936	311	1	311	$2,493	$981.52	$3,319	$2.98	33.13%
291	421942	1,376	3	459	$6,812	$904.41	$9,834	$2.24	44.36%
292	431968	1,194	1	1,194	$0	$600.19	$0	$0.00	0.00%
293	442043	383	2	192	$4,337	$1,043.52	$5,316	$4.18	22.57%
294	442107	5,494	1	5,494	$0	$507.43	$0	$0.00	0.00%
295	462198	763	1	763	$0	$746.01	$33	$0.04	100.00%
296	462206	58	1	58	$800	$1,113.34	$1,015	$4.17	26.88%
297	462210	66	1	66	$740	$1,109.17	$1,140	$3.82	54.05%
298	472227	877	5	225	$8,822	$1,026.33	$11,393	$3.35	29.14%
299	482252	2,222	2	1,111	$0	$609.74	$0	$0.00	0.00%
300	502279	1,206	1	1,206	$0	$598.81	$0	$0.00	0.00%
301	502282	1,346	1	1,346	$0	$582.70	$0	$0.00	0.00%
302	502283	1,372	3	457	$6,441	$905.45	$9,869	$2.79	53.22%
303	532386	1,430	1	1,430	$0	$573.03	$0	$0.00	0.00%
304	532396	562	1	562	$1,681	$850.74	$2,664	$1.72	58.48%
305	613005	67	1	67	$859	$1,108.81	$1,156	$4.04	34.58%
306	613026	168	1	168	$1,741	$1,056.18	$2,442	$3.45	40.26%
	Total:	670,857			$879,535		$1,283,916	$0.66	45.98%

* Proposed Cost per Loop with Opex limit applied